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**GRAY HERBARIUM of Harvard University,**
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THE NEW ENGLAND BOTANICAL CLUB

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# A NEW SPECIES OF SAMOLUS (PRIMULACEAE) FROM MEXICO

R. B. CHANNELL[1]

The last comprehensive treatment of the genus *Samolus* L. (anomalous among the *Primulaceae* by the half-inferior position of the ovary) appeared in the monograph of the *Primulaceae* by Pax and Knuth (1905). According to this work only two species are characterized by ebracteate pedicels and by the absence of staminodia: *S. ebracteatus* HBK. (1818) [including *S. alyssoides* Heller (1895) and *S. cuneatus* Small (1897)] and *S. cinerascens* (Robinson) Pax & R. Knuth (l. c.; cf. Robinson, 1892). The presence of a group of small glandular hairs at the base of each corolla-lobe, rendering the corolla-throat more or less pubescent, is another feature common to both and unknown elsewhere in the genus. No other species of the genus so characterized has subsequently been described. The species here proposed as new is evidently related to the two above, inasmuch as it shares with them the characters thus far enumerated. One of these characters has served as the primary basis for establishing a separate genus. Thus, while specific affinities are clear, the assignment of the new species to genus deserves further comment.

Publication of the segregate genus *Samodia*, originally proposed but not validly published by Baudo (1843), was validated by Small (1933), who accorded generic significance almost solely to the absence of staminodia. Typified by *Samolus ebracteatus* HBK. and to date nomenclaturally monotypic, this genus has never enjoyed general acceptance. This is partly due to the fact that elsewhere in the *Primulaceae* conservative taxonomists have

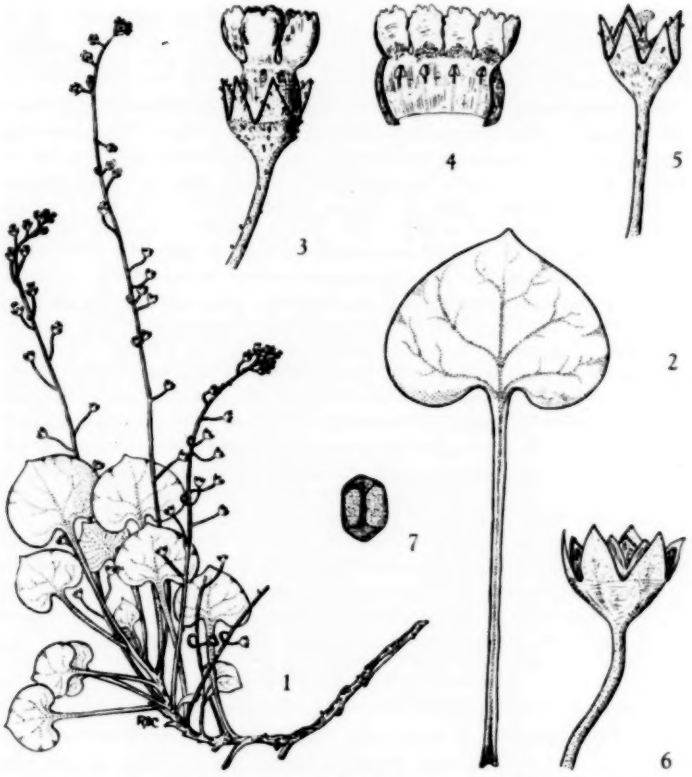
[1] Gray Herbarium and Arnold Arboretum. Present address: Department of Biology, Vanderbilt University.

not attributed generic importance to the presence of staminodia in an otherwise non-staminodial group (cf. *Lysimachia* [Tourn.] L. subgenus *Selencia* Bigelow; *Steironema* Raf.). As a character, moreover, the presence or absence of staminodia in *Samolus* cuts across a long-established line, perhaps demarcating groups equally as natural, between those species of herbaceous habit with smooth herbage, as exemplified by *Samolus ebracteatus*, and those of suffruticose habit with glandular-porous herbage, as exemplified by *Samolus cinerascens*. Generic segregation on the basis of differences in habit or general appearance alone, however, seems wholly unjustified. The other characters distinguishing *Samodia*, relative length of tube to lobes of the corolla and level of adnation of the stamens, are generally disregarded as representing merely matters of degree. Under the circumstances the single Linnaean genus *Samolus* is here recognized.

The new species is based upon two unicate collections in the Gray Herbarium found among undetermined *Samolus* specimens examined in a survey of the morphological variation and geographical distribution of *S. ebracteatus* for the southeastern United States. These specimens were collected in western Coahuila, Mexico, by Reynaldo Santos, under the direction of Robert M. Stewart, and bear the latter's collection numbers: *Stewart 2748*, 25 September 1942, holotype—"*Rancho del Coyote* (1 km. S.E.) gypsum slopes, scarce, ascending, 2 dm., fl. white. Base of mountains along the eastern margin of the Valle de Acatita." *Stewart 2805*, 2 October 1942, paratype—"*Cañon del Agua Grande* by water, common, fl. white. Canyons in the Sierra del Sobaco a few kilometers west of Las Delicias."

**Samolus dichondrifolius** Channell, sp. nov.[2] Herbae perennes, caulescentes (laeves, non glanduloso-porosae), 1–3 dm. altae, caules repentes vel decumbentes, apices foliati adscendentes, axillae foliorum superiorum racemos graciles nudos gerentes. Caulis glaber, 2.5 dm. longus, vel ultra, internodii 4–8 mm. longi, pars vestustior basibus petiolaribus foliorum disruptorum vestita, apices folia numerosa alterna vel approximata gerentes. Folia (2–)4–7(–9) cm. longa, simplicia, glabra, supra griseoviridia, subtus pallida vel glauca, laminae integrae reniformes apiculatomucronatae, 1–3 cm. latae, 1–2(–3) cm. longae, basi in petiolis gracilibus linearibus complanatis (1–)2–5(–6) cm. longis abrupte contractae. Racemi, pedicelli calycesque minute glanduloso-pubescentes. Racemi

[2] The Latin description was kindly prepared by Dr. R. C. Foster, Gray Herbarium.




SAMOLUS DICHONDRIFOLIUS: Fig. 1, habit (½ natural size); fig. 2, leaf (natural size); fig. 3, flower (× 5); fig. 4, opened corolla showing stamens and tufts of glandular hairs (× 5); fig. 5, flower with corolla removed to show pistil (× 5); fig. 6, fruit after dehiscence (× 5); fig. 7, seed (× 20). All drawings made from holotype: *Stewart 2748*, GH.

simplices, 0.5–2.5 dm. longi, pedicelli graciles ebracteati 5–10 mm. longi, divergenti-adscendentes. Calyx herbaceus, campanulatus, lobi triangulares vel triangulato-lanceolati, acuti, tubum aequantes. Corolla alba (vel pallide rubra in sicco), 3–4 mm. diametro, lobi late ovati vel oblongo-ovati, obtusi, eroso-denticulati vel retusi, tubum paene aequantes, faux paullo constricta interne pubescens. Stamina inclusa, in corollae tubum paene ad medium inserta, antherae ovatae, 0.3–0.5 mm. longae, filamenta brevia aequantes; staminodia nulla. Ovarium semiinferius, stylus ca. 0.5 mm. longus, stigma apicale, discoideo-capitatum.

Capsula semi-inferior, ca. 3 mm. diametro, muris crassis, in valvis triangularibus paullo recurvatis dehiscens. Semina numerosa, atro-brunnea vel nigra, complanata, ovoideo-angularia, axis longus 0.25–0.5 mm., integumenta polygonali-reticulata.

Caulescent perennial herbs (leaves smooth, not glandular-porous) 1–3 dm. in height, with repent or decumbent stems, the leafy tips ascending, bearing slender naked racemes from the upper leaf-axils. Stem glabrous, 2.5 dm. or more in length, the internodes 4–8 mm. long, the older portion bearing the petiolar bases of old or broken foliage, the tips bearing numerous alternate or approximate leaves. Leaves (2–)4–7(–9) cm. long, simple, glabrous, gray-green above, pale or glaucous below, the reniform entire blades apiculate-mucronate, 1–3 cm. wide, 1–2(–3) cm. long, abruptly contracted into slender, linear, flattened petioles (1–)2–5(–6) cm. long. Racemes, pedicels and calyces minutely glandular-pubescent. Racemes simple, 0.5–2.5 dm. long, the slender ebracteate pedicels 5–10 mm. long, spreading-ascending. Calyx herbaceous, campanulate, the lobes triangular or triangular-lanceolate, acute, equalling the tube. Corolla white (or when dry flesh-pink), 3–4 mm. in diameter, the lobes broadly ovate or oblong-obovate, obtuse, erose-denticulate or retuse, nearly equalling the tube, the slightly constricted throat pubescent within. Stamens included, inserted on the corolla-tube near the middle, the anthers ovate, 0.3–0.5 mm. long, equalling the short filaments; staminodia wanting. Ovary ½ inferior, the style about 0.5 mm. long, capped by the discoid-capitate stigma. Capsule ½ inferior, about 3 mm. in diameter, the free portion thick-walled and dehiscent by slightly recurving triangular valves. Seeds numerous, dark brown or black, flattened, ovoid-angular in outline, the long axis 0.25–05 mm., the testa polygonal-reticulate. (Figs. 1–7.)

*Samolus dichondrifolius* is more closely related to the widespread *S. ebracteatus* than to *S. cinerascens*. Known only from San Luis Potosí, Mexico, where it grows on alkaline plains, the latter species is distinguished by the suffruticose, subligneous habit, the conspicuously glandular-porous, linear or linear-lanceolate, acute leaves, the linear-lanceolate sepals, exceeding in length the valves of the mature capsule, by the entire corolla-lobes, anthers 1.5 mm. long, and by the non-dilated stigmas.

*Samolus ebracteatus* (sensu lato) is distributed in Cuba, Florida, Texas, Oklahoma, New Mexico and from Coahuila, Nuevo León and Tamaulipas southward into Oaxaca, as well as in Baja California, Mexico. Considerably variable in habit, this species apparently grows equally well in calcareous clay, sandy soils, sandy loam, humus and on almost bare, eroded limestone (cf. Small, 1934). According to herbarium data the habitats include

pine woods, brackish flats and salt marshes, gypsum ravines, chalk bluffs, limestone rocks, edges of streams, ponds and springs, calcareous clay and granitic soils. It is not surprising, therefore, that practical difficulties have arisen in the interpretation of local variation, even though the species is typically riparian. This species is characterized by the herbaceous habit, glabrous herbage, broad spatulate to spatulate-rotund leaves with broad, gradually contracted, vaginate bases, often decurrent on the stem, the triangular-ovate sepals, merely equalling the valves of the mature capsule, by the erose-denticulate corolla-lobes, anthers only about 0.75–1.0 mm. long, and by the capitate stigmas.

The new species is distinguished from all other members of the genus by the distinctive leaves. The reniform-apiculate blades and the long, linear petioles give the foliage a striking resemblance to that of species of *Dichondra* (*Convolvulaceae*), whence the epithet. Although sharing the same fundamental floral structure, including the irregularly erose-denticulate corolla-lobes and capitate stigmas, *S. dichrondrifolius* may be distinguished from *S. ebracteatus* by the smaller size of the flowers and by the narrower, more slender inflorescences, as well as by obvious foliage differences. *Samolus ebracteatus* has corollas 4–9 mm. in diameter and pedicels 10–20 mm. long; *S. dichondrifolius* has corollas only 3–4 mm. or less in diameter and pedicels only 5–10 mm. long. In addition, the corollas of the latter species are white; those of *S. ebracteatus* are generally pigmented, varying in color from pink to purple or even red. The anthers of *S. dichondrifolius* are only about 0.3–0.5 mm. long.

Little is known, except in general terms, about the type locality and associates of the new species. The descriptive account by Muller (1947) of the vegetation and climate of Coahuila indicates that the plains and basins of the southern, western and northern three-fourths of the state are extremely arid and are occupied chiefly by a strictly desert vegetational type designated as Chihuahuan Desert Shrub. The vegetation is polymorphic, consisting of low, sparse perennials and ephemeral annuals. *Larrea tridentata* (DC.) Cov. is the most characteristic species and the variant vegetational types are described by Muller in terms of associates of that species and those which occasionally replace it. The only known stations for *Samolus dichondrifolius*

are located within this vegetational type in western Coahuila, near the southeastern corner of Chihuahua. As already indicated, the holotype was collected from a gypsum slope; the paratype near water.

The studies of Johnston (1941) of extensive gypsum flats and gypseous ridges in the same vicinity have yielded a rather extensive list of gypsophiles, including species of *Dicranocarpus, Sartwellia, Nerisyrenia, Drymaria, Nama,* etc. Whether or not *Samolus dichondrifolius* may be classified as a strictly gypsophilous species, however, remains to be determined.

It is to be noted that *Samolus ebracteatus* also occurs in this area, near water, in relatively close proximity to the type locality of the new species (cf. *Stewart 2729, 2735* and *2942:* GH) and elsewhere in gypsum ravines (cf. *Johnston 3631* and *Waterfall 6142:* GH). According to the collection data the two species flower simultaneously, at least in western Coahuila. Insofar as present collections indicate, however, the two species retain their morphological identity and are probably isolated genetically.

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# A CYTOTAXONOMIC STUDY OF THE GENUS ACHILLEA IN PENNSYLVANIA[1]

ELWOOD B. EHRLE

The problem of speciation in the genus *Achillea* has received attention from workers at the laboratory of the Carnegie Institution of Washington in California (Clausen, 1951; Hiesey & Nobs, 1952; Ehrendorfer, 1952). These studies have been directed chiefly toward deciphering evolutionary trends and ecological specialization within this genus. Major study has been concentrated on forms from the Western United States and Europe. Very little is known of relationships among Achilleas of the Eastern United States.

Herbarium specimens of eastern material, located at various institutions in Pennsylvania, all bear the name *Achillea millefolium* L. The western species, *Achillea lanulosa* Nutt., has not been recognized in this state since all material of the genus has been somewhat automatically referred to *A. millefolium* L. Cronquist, in the new Britton and Brown Flora (Gleason, 1952), treats *A. lanulosa* Nutt. as a subspecies of *A. millefolium* L. and describes its distribution as occurring "toward the western part of our range" and "occasionally introduced eastward." The two forms are differentiated by Cronquist on the basis of the degree of crowding of the leaf segments and the shape of the ultimate segments.

*A. millefolium* L. *sens. strict.* is a European hexaploid with 54 somatic chromosomes, whereas American *A. lanulosa* Nutt. is tetraploid with 36 somatic chromosomes (Ehrendorfer, 1952). In his review of the geographical distribution of *Achillea* in North America, Lawrence (1947) included the three eastern records (Vermont, Mass., & N. Y.) for tetraploid *A. lanulosa* Nutt. as reported by Turesson (1939). No cytologically proven records of the existence in the east of the European hexaploid, *A. millefolium* L. *sens. strict.*, occur in the literature.

Twenty-six specimens of Achillea were collected in Pennsylvania during the winter of 1956 and the spring of 1957 and were grown in a greenhouse at the Pennsylvania State University.

[1] The aid of Dr. Paul Grun in the preparation of material and in the interpretation of cytological figures is gratefully acknowledged.

The leaves of these plants and those of herbarium specimens labeled *A. millefolium* or *A. lanulosa* from various parts of the United States were examined. It was not possible to separate the herbarium specimens or the growing plants into two categories on the basis of the shape of the ultimate segments or the degree of crowding, as the plants were highly variable with regard to these two characters.

When the plants were growing vigorously, root tips were collected, treated by the oxiquinoline method (Tijo and Levan, 1952), and stained with propio-orcein. The cells of all plants studied showed 36 somatic chromosomes. A list of these plants with their points of collection is shown in Table I. Many of the chromosomes (Fig. 1) were of equal length and had centrally located centromeres. Of those with sub-terminal centromeres, four satellite-bearing chromosomes were frequently discernible, indicating that this tetraploid species arose from satellite-bearing diploid precursors, either by auto- or allo-polyploidy.

The existence of tetraploid *Achillea* in Pennsylvania is thus demonstrated. These plants should, therefore, be referred to ecological races of the western tetraploid *A. lanulosa* Nutt. and not to European *A. millefolium* L. as is the current practice. It might be possible that the latter species will be found in the vicinity of seaports and other points of entry of European migrants.

TABLE I. Known distribution in Pennsylvania of tetraploid *A. lanulosa* Nutt.—verified by chromosome counts.

| County | Locality | No. plants determined |
|---|---|---|
| Centre | State College | 1 |
| Clearfield | Caledonia Pike | 1 |
| " | Clearfield Bridge | 3 |
| " | Dimeling | 4 |
| " | Grampian | 1 |
| " | Kratzer Run | 4 |
| " | Lick Run | 1 |
| Clinton | Lamar | 1 |
| Huntingdon | Spruce Creek | 2 |
| Lycoming | Maple Hill | 1 |
| Perry | Mecks Corner | 1 |
| " | Millerstown | 1 |
| " | Shermandale | 1 |
| " | Waggoner Gap | 1 |
| Snyder | Kratzerville | 1 |
| " | Mt. Pleasant Mills | 1 |
| Union | Weikert | 1 |

Fig. 1. Camera lucida diagram of the mitotic early metaphase chromosomes of tetraploid *Achillea lanulosa* Nutt., occurring at the side of Rt. 322 at Kratzer Run in Clearfield Co., Pennsylvania.

The presence of this species in such areas must, however, be proven before we can conclude that any *A. millefolium* L. *sens. strict.* exists in Pennsylvania.—DEP'T. OF BOTANY AND PLANT PATHOLOGY, PENNSYLVANIA STATE UNIVERSITY, UNIVERSITY PARK, PA.

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# SPECIES NEW TO THE FLORA OF NORTH OR SOUTH CAROLINA[1]

Harry E. Ahles, C. Ritchie Bell and Albert E. Radford

Most of the distribution records included in this paper are from the collections of the authors during 1956. Others are from the many excellent specimens contributed by O. M. Freeman to the Flora of the Carolinas project. Still others were found in the herbaria of the University of North Carolina (NCU), North Carolina State College (NCSC), Duke University (DUKE) and the New York Botanical Garden (NY).

The determinations of the grasses included in this paper have been made or verified by H. L. Blomquist of Duke University. R. B. Channell, then of the Gray Herbarium and Arnold Arboretum, and Joseph Monachino, of the New York Botanical Garden, checked their respective herbaria for the presence of many of the species that appear in this report. In addition, Mr. Monachino also verified the identification of the following specimens: *Sesbania exaltata* (Raf.) Cory, *Bell 4822*; *Plantago hookeriana* var. *nuda* (Gray) Poe, *Ahles 12169, 12607* and *Bell 2712;* and *Hypochaeris glabra* L., *Ahles 12404*. H. N. Moldenke supplied current distribution information on the verbenas. We gratefully acknowledge the valuable technical aid rendered by these individuals, and the generous field assistance given us by Lionel Melvin, R. S. Leisner and J. H. Horton. The hospitality and help of the curators of the various herbaria were sincerely appreciated.

All but two of the plants included in the following enumeration of species we presume to be new records for one or both of the Carolinas. The family arrangement follows that used by Fernald (1950); genera and species are listed alphabetically. Specimens and collection data are cited by state (North Carolina first) and county, the latter being arranged alphabetically. All specimens are deposited in the University of North Carolina Herbarium (NCU) unless otherwise noted by an appropriate symbol.

**Andropogon campyloracheus** Nash—SOUTH CAROLINA. Allendale Co.:

[1] It is a pleasure to acknowledge the generous financial assistance given in support of the project by Mrs. W. C. Coker; by the Alumni Annual Giving Fund and the Smith Fund of the University of North Carolina; and by the Highlands Biological Laboratory via a grant-in-aid from the National Science Foundation.

Sandhill by Co. Rt. 41 sw. of Barton and 2.1 mi. n. of jct. with Co. Rt. 91, *Bell 5124*.

Hitchcock (1933) and Chase (1950) report the range as Florida to Louisiana. This specimen represents a northern extension of range into South Carolina. A specimen of the cited collection was verified by Agnes Chase.

**Brachiaria platyphylla** (Griseb.) Nash—SOUTH CAROLINA. Beaufort Co.: Weed in vegetable garden, Dale, *Ahles 15584;* weed in corn field, 0.6 mi. n. of Lobeco on U. S. 21, *Ahles 20946*.

In Hitchcock (1933) this species is cited as *Brachiaria extensa* Chase. According to Chase (1950) this grass is found primarily in the Gulf States with an east coast extension into Georgia. These are the first records of this weed from South Carolina.

**Digitaria filiformis** (L.) Koel.—SOUTH CAROLINA. Hampton Co.: Sandy roadside, 3.1 mi. nw. of Yemassee on S. C. 28, *Ahles 15750*.

Hitchcock (1933) treats this species as *Syntherisma filiforme* (L.) Nash, giving its distribution as Florida to Texas and Massachusetts. Chase (1950) maps the species from all the states on the southeastern coast except South Carolina. No herbarium specimens have been found in NCU, DUKE or NCSC.

**Digitaria texana** Hitchc.—SOUTH CAROLINA. Colleton Co.: Sandy oak woods at jct. of Co. Rts. 172 & 28, w. of Hendersonville, *Ahles 17916*.

Hitchcock (1933) does not include this species. Chase (1950) reports it from southern Texas only. This is the first southeastern record for this taxon.

**Eragrostis lugens** Nees.—SOUTH CAROLINA. Hampton Co.: Pond and sandy margins, 0.8 mi. nnw. of Shirley on Co. Rt. 20, *Bell 5013*. Oconee Co.: Meadow near S. C. 59, 1 mi. n. of Fair Play, *Radford 17916*.

Hitchcock (1933) gives the distribution of *Eragrostis lugens* as Louisiana to California and naturalized in Georgia and Alabama. Chase (1950) has essentially the same distribution. This is the first report of a collection from South Carolina.

**Heteropogon melanocarpus** (Ell.) Benth.—SOUTH CAROLINA. Beaufort Co.: Sandy roadside, Hilton Head Island, *Ahles 18062*. Hampton Co.: Roadside, 1 mi. s. of Brighton, *Ahles 21008*. Jasper Co.: Field-savannah border, on S. C. 170, 1.6 mi. n. of jct. with S. C. 128, *Bell 5317*.

This grass has been known previously only as far north as Georgia, as reported by Hitchcock (1933) and Chase (1950).

**Melica nitens** Nutt.—NORTH CAROLINA. Madison Co.: Hardwood forest, 3 mi. nw. of Hot Springs on the French Broad River, *Radford 8053*.

Chase (1950) and Fernald (1950) report the range as Pennsylvania to Virginia. In Madison County the species was very infrequent on limestone.

**Paspalum plicatulum** Michx.—SOUTH CAROLINA. Colleton Co.: Cultivated field, Ritter, *Ahles 15489*.

According to the range given for this species by Hitchcock (1933)

and Chase (1950), the Colleton County collection represents a northern extension from Georgia.

**Phalaris canariensis** L.—SOUTH CAROLINA. Anderson Co.: Waste places, mixed deciduous woods, 0.5 mi. wnw. of Seneca-Tugaloo River jct., *Radford 12087*.

This European adventive is widely scattered in waste places and is rarely persistent, according to Fernald (1950). Chase (1950) maps the species from all of the states east of the Mississippi River except North Carolina, South Carolina, Georgia and Alabama. The Anderson County collection is the first report from South Carolina.

**Scirpus etuberculatus** (Steud.) Kuntze—SOUTH CAROLINA. Marlboro Co.: Fresh-water marsh, 2.25 mi. e. of Wallace on S. C. 9, *Radford 15549*.

Small (1933), Beetle (1947), Fernald (1950) and Gleason (1952) indicate the range as from Delaware to Florida and Louisiana. The absence of specimens from South Carolina in the NCU, DUKE, NCSC and NY herbaria warrants the inclusion of this species in the list of South Carolina plants.

**Scirpus koilolepis** (Steud.) Gleason—NORTH CAROLINA. Union Co.: Meadow, 3 mi. s. of Rocky River, 4.5 mi. n. of Unionville, *Radford 10597*; wet corn field, 2.5 mi. w. of New Salem, *Ahles 12083*.

Small (1933) treats this taxon as *Scirpus carinatus* (H. & A.) Gray, ranging from Alabama to Texas and Tennessee. Beetle (1947), Fernald (1950) and Gleason (1952) give essentially the same range. The 1956 collections represent an eastward extension from Tennessee into North Carolina.

**Commelina communis** L. var **ludens** (Miquel) C. B. Clarke—NORTH CAROLINA. Cleveland Co.: Roadside ditch, 0.5 mi. n. of Lawndale on Maple Creek, *Ahles 15195*. Polk Co.: Roadside, Saluda, 6 mi. n. of Tryon, *Fosberg 18735*.

According to Fernald (1950) this naturalized variety of the Asiatic species is found from New Jersey and Pennsylvania to Virginia and Kentucky. It is not mentioned by Small (1933). The cited specimens represent a southern extension of range into North Carolina.

**Allium ampeloprasum** L.—NORTH CAROLINA. Davidson Co.: Roadside, 3 mi. nw. of Churchland near Yadkin River, *Radford 12864*. SOUTH CAROLINA. Oconee Co.: Roadside of Co. Rt. 68, w. of Madison, *Bell 3111*.

This Old World species is not treated by Small (1933), and Fernald (1950) includes it only because the var. *atroviolaceum* (Boiss.) Regel has been found in York County, Virginia (Fernald, 1941). Although Gleason (1952) includes the species, his treatment is apparently based on Fernald's collection of the variety in southeastern Virginia. James (1956) reports the species in an apparently undocumented list of plants introduced into northern Tennessee, but without comment as to whether or not it is the variety mentioned by Fernald. Without herbarium material it is not possible to know whether James had the first record

for the species itself in the eastern United States, or another record for the variety.

**Brodiaea uniflora** (Lindl.) Engler—NORTH CAROLINA. Orange Co.: Field along railroad tracks at U.N.C. power plant at Chapel Hill, *Radford 8842*.

This South American horticultural introduction has become well established as a weed in Chapel Hill. Bailey (1950) lists the species as *Brodiaea uniflora* Baker and gives *Triteleia uniflora* Lindl. as a synonym; Hoover (1941) specifically excluded this taxon from the genus *Triteleia* with the comment that it may belong to either *Nothoscordum* or *Tristagma*.

**Hymenocallis occidentalis** (Le Conte) Kunth—SOUTH CAROLINA. Union Co.: Rocky shoals of Broad River, Lockhart, *Freeman 56401*.

Small (1933) states the range of this species as Georgia to Missouri and Indiana. Fernald (1950) gives it as Georgia to Alabama, and north to Kentucky, southern Indiana, southern Illinois and southeastern Missouri. Gleason (1952) says that it occurs from southern Indiana to southern Missouri and south to the Gulf. Apparently the Union County collection is the first record for South Carolina.

**Pilea fontana** (Lunell) Rydb.—NORTH CAROLINA. Halifax Co.: Swamp along the Roanoke River, just n. of Roanoke Rapids on N. C. 48, *Ahles 20713*. Jones Co.: Hardwood forest over marl on Trent River, ne. of Pollocksville, *Radford, Haesloop & Miller 7707*.

The two preceding specimens are recorded here because of the discrepancy in the ranges given by Fernald (1950), "w. N. Y. to N. D., s. to n. Fla., Ind., Ill. and Neb.," and Gleason (1952), "P. E. I. to Minn. & N. D. s. to Va., Ind., and Neb.; Fla." Small (1933) does not include this species at all. The placing of *Pilea opaca* (Lunell) Rydb. as a synonym of this species in Gleason (1952) rather than as a synonym of *P. pumila* (L.) Gray is apparently an error, as is the illustration for this species which is clearly *Boehmeria cylindrica* (L.) Sw. However, the achene to the left of the illustration is that of *P. fontana*.

**Polygonum hirsutum** Walt.—SOUTH CAROLINA. Allendale Co.: Low pine savannah, 1.5 mi. se. of jct. Co. Rts. 41 & 60 on Co. Rt. 26, sw. of Barton, *Ahles 15868;* pond banks, 7 mi. nw of. Allendale on S. C. 641, *Bell 4039;* field, 3.3 mi. sw. of Sycamore, 3 mi. e. of jct. U. S. 301 & S. C. 644, *Bell 5185*. Lexington Co.: Mucky margin of open shallow pond, Columbia, *Godfrey & Tryon 1220* (DUKE, NY).

All of the plants described by Walter in his *Flora Caroliniana* (1788) are presumably from South Carolina. Apparently Small (1895) overlooked this fact or had reason to ignore it, in giving the range of *Polygonum hirsutum* as Georgia and Florida. In his 1933 manual he repeats the same range under the name *Persicaria hirsuta* (Walt.) Small. Due to the uncertainty of the existence of an herbarium specimen from South Carolina, we are citing the above collections.

**Rumex patientia** L.—NORTH CAROLINA. Wake Co.: Waste ground, Rolesville, *Ahles 11428*.

Small (1933) does not include this species. Fernald (1950) reports it south to eastern Pennsylvania while Gleason (1952) gives no indication that it occurs outside of that manual's range. Therefore the preceding specimen is cited as the first record for North Carolina. Only two plants were observed at the Rolesville locality.

**Cycloloma atriplicifolium** (Spreng.) Coult.—NORTH CAROLINA. New Hanover Co.: Sandy waste place, N. C. 420 at causeway, Wrightsville Beach, *Radford & Radford 2079.* SOUTH CAROLINA. Darlington Co.: Common in a field on road from Darlington to Lauther's Lake, *B. E. Smith 1657;* sandy soil on Witherspoon Island, *B. E. Smith 916.* Sumter Co.: Roadside ditch 1 mi. n. of county line on U. S. 15A, *Bell 3607.*

These collections are recorded here because the Southeastern United States are excluded from the range of this taxon as given by Small (1933), Fernald (1950) and Gleason (1952). At the Sumter County locality the species was abundant in several fields.

**Amaranthus graecizans** L.—SOUTH CAROLINA. Anderson Co.: Field, S. C. 81, 3.5 mi. n. of Anderson, *Radford 14053.*

Although the ranges given by Small (1933), Fernald (1950) and Gleason (1952) indicate that this species occurs throughout the United States, intensive field work in both North and South Carolina during 1956 produced only one collection. No specimens from either state are present in the herbaria of NCU, DUKE, NCSC or NY. These facts seem to warrant the reporting of the Anderson County collection as a new record for South Carolina.

**Froelichia gracilis** (Hook.) Moq.—SOUTH CAROLINA. Allendale Co.: Sandy field sw. of Allendale on Co. Rt. 57, *Bell 4034.* Lee Co.: Sandy waste ground, 1 mi. sw. of Alcot on U. S. 15, *Ahles 15898.*

According to Fernald (1950) and Gleason (1952), this species is native to the central United States and is adventive eastward, ranging southward only as far as Virginia. Small (1933) makes no mention of it. *Froelichia gracilis* is probably more widely distributed throughout the Southeastern United States than present collections would indicate, as it is easily confused with *F. floridana* (Nutt.) Moq. and possibly has been mistaken for that species. However, the gray color, low stature and habit of branching freely at the base distinguish *F. gracilis* from *F. floridana. Froelichia gracilis* is to be expected along railroads or in sandy places.

**Mirabilis jalapa** L.—NORTH CAROLINA. Iredell Co.: Statesville *M. E. Hyams 4991.* Stanly Co.: Well established on road embankment, 4.1 mi. sw. of N. C. 73 on N. C. 27, *Ahles 19839.*

Small (1933) says of this species, "escaped, s. Fla.," while Fernald (1950) and Gleason (1952) give a very vague range. In 1956 it was found well established on a road embankment and for this reason is placed on record.

**Tetragonia expansa** Murr.—NORTH CAROLINA. Durham Co.: Escaped from gardens and fields, Engelwood Ave., Durham, *Blomquist 3584* (DUKE).

Small (1933) gives the range as Florida and California. Fernald (1950) says, "sometimes escapes from cultivation," and Gleason (1952) states, "occasionally persists in gardens or appears spontaneously near them." In North Carolina this species is probably no more than a waif, occurring sporadically after cultivation.

**Holosteum umbellatum** L.—SOUTH CAROLINA. Cherokee Co.: Roadside, 8.7 mi. nw. of Gaffney on S. C. 11, *Ahles 11291*. Spartanburg Co.: Anderson Bridge over the Enoree River, S. C. 417, *Freeman 6509*.

Maguire (1952) gives the range as eastern Massachusetts to Georgia in the Atlantic States. Even though South Carolina is in the general range of this species, no South Carolina specimens have been found in NCU, DUKE, NY or GH.

**Spergula pentandra** L.—NORTH CAROLINA. Warren Co.: Sandy roadside, 0.5 mi. e. of Warren Plains on U. S. 158, 200 yards e. of railroad crossing, s. side of highway, *Ahles 10966*.

According to Maguire (1952) this European species is an adventive at Cape May, New Jersey only. The Warren County collection is the first record for the southeast.

**Ranunculus arvensis** L. var. **tuberculatus** DC.—NORTH CAROLINA. Cabarrus Co.: Fields, Harrisburg, May 25, 1944, *W. H. Garmon* (NCSC); field by woodland, 3 mi. ne. of Harrisburg, along Wolf Meadow Branch, *Bell 2271*. Clay Co.: Roadside, 1.3 mi. sw. of Hayesville at jct. of Sweet Water Gap Road and U. S. 64, *Ahles 13801*. Mecklenburg Co.: Wheat field, 1.5 mi. w. of Mecklenburg-Cabarrus Co. line on N. C. 49, *Ahles 11324*.

Gleason (1952) describes the species as a European introduction occasionally found along the Atlantic coast. The variety is not described by Small (1933), Fernald (1950) or Gleason (1952). According to Hegi (1912) it is found in Central Europe. In North Carolina the variety seems to have been introduced with grain, and therefore may be established elsewhere in North America. At one of the localities the species grew mixed with the variety, and at two localities the variety occurred by itself. This variety of *R. arvensis* was very abundant at two of the localities.

**Ranunculus sardous** Crantz—NORTH CAROLINA. Iredell Co.: Roadside, 2.9 mi. w. of Elmwood and 1.5 mi. ne. of U. S. 70 near Fourth Creek, *Ahles 12982*. Union Co.: Roadside, 0.3 mi. s. of Stanly-Union Co. line (Rocky River) about 4.5 mi. n. of Unionville, *Ahles 11952*. SOUTH CAROLINA. Colleton Co.: Wet soil near railroad, Ritter, *Ahles 12177*.

Small (1933) gives the range of this species, under *Ranunculus parvulus* L., as "Cosatal Plain and New England Coast, Ga. to N. B."; Fernald (1950) says, "N. B. to Mo. and southw." According to Gleason (1952) this weed ranges from southeastern Virginia to Georgia. No specimens from either of the Carolinas have been found in the local herbaria.

**Alliaria officinalis** Andrs.—NORTH CAROLINA. Rockingham Co.:

Wooded river bottom, about 2 mi. e. of Thompsonville on N. C. 87, *Ahles 10746;* swamp forest, Dan River near N. C. 14, s. of Leaksville, *Radford 10769.*

Small (1933) does not include this species in his manual. Fernald (1950) and Gleason (1952) have it ranging only as far south as Virginia on the eastern portion of the range.

**Hesperis matronalis** L.—NORTH CAROLINA. Forsyth Co.: Escape, Winston-Salem, *Schallert 8765.*

Although the range of this species as given by Small (1933), Fernald (1950) and Gleason (1952) may be interpreted to include North Carolina, there are no specimens from the state at DUKE, NCSC or NY. This fact warrants the inclusion here of the Forsyth County record.

**Raphanus raphanistrum** L.—SOUTH CAROLINA. Beaufort Co.: Roadside and edge of cultivated field, Bluffton, *Ahles 12372.* Darlington Co.: Field s. of ferry at Lauther's Lake, *B. E. Smith 1492.* Hampton Co.: Sandy roadside, 2 mi. n. of Estill on U. S. 321, *Ahles 10588;* weed in cultivated field, 3.7 mi. nne. of Early Branch, *Ahles 12462.* Jasper Co.: Waste ground, Ridgeland, *Ahles 15607.* Marlboro Co.: Shrub bog, 2.5 mi. nw. of Blenheim, *Radford 12667.*

This species is not included in Small (1933), and is recorded only as far south as Virginia in the eastern part of the ranges as given by Fernald (1950) and Gleason (1952). Freeman (1955) reports it from North Carolina and Thorne (1951) from Georgia. The Jasper County specimen, *Ahles 15607,* is forma *albus* (Schuebler & Martens) Hayek.

**Thlaspi perfoliatum** L.—NORTH CAROLINA. Alexander Co.: Field, 4 mi. e. of Caldwell Co. line on N. C. 90, *Radford 9979.* Graham Co.: Roadside, about 2 mi. s. of the town of Yellow Creek on U. S. 129, *Ahles 13317.* Rockingham Co.: Meadow, 3 mi. n. of Reidsville near N. C. 14, *Radford 13612.* Stokes Co.: Roadside, 0.4 mi. w. of Stokes-Rockingham Co. line on U. S. 311, about 1 mi. n. of Pine Hall, *Ahles 10807.*

*Thlaspi perfoliatum* is not included by Small (1933), and is reported south only to Virginia by Fernald (1950) and Gleason (1952).

**Warea cuneifolia** (Muhl.) Nutt.—NORTH CAROLINA. Harnett Co.: From sandhills, about 3 mi. ne. of Spout Springs on Sprunt land, Sept. 1, 1940, *H. A. Rankin.*

Small (1933) gives the range as "Fla. to Ala. and S. C." The Harnett County collection is not a new record as it was cited in 1940 by Rankin in the Journal of the Gray Memorial Botanical Association. However, due to the omission of a complete citation of Rankin's specimen in 1940 in an obscure publication, it would seem worthwhile to repeat this state record here.

**Chrysobalanus oblongifolius** Michx.—SOUTH CAROLINA. Jasper Co.: Sand hill, 2 mi. nw. of Grays on S. C. 631, *Ahles 15794;* sand hills, 10.5 mi. nw. of Tillman, 0.6 mi. se. of Seaboard Air Line Railway, *Ahles 18217.*

Small (1933) gives the range of this species, under the name *Geobalanus oblongifolius* (Michx.) Small, as "Fla. to Miss. and Ga." The

species was found to be fairly abundant in the sand hill country of northwestern Jasper County where it appears to be native.

**Sesbania exaltata** (Raf.) Cory— NORTH CAROLINA. Brunswick Co.: Abundant in extensive marsh, Brunswick River w. of Wilmington, *Godfrey 50162* (DUKE, NCSC). Granville Co.: Camp Butner, *Batson 118* (DUKE). SOUTH CAROLINA. Darlington Co.: Coker's Seed Farm, Hartsville, *B. E. Smith 1559*. Jasper Co.: Sandy roadside, edge of brackish marsh, 0.7 mi. n. of the Savannah River on U. S. 17A, *Ahles 18154*.

The range of this species as given by Small (1933) under *Sesban exaltata* (Raf.) Rydb. does not include the South Atlantic States. Thorne (1951) reports it for the first time from Georgia while the above earlier and unpublished collections from North and South Carolina were found during the checking of herbarium specimens in connection with the current collection from Jasper County.

**Oxalis martiana** Zucc.—NORTH CAROLINA. Wake Co.: Roadside near Cary, April 1, 1949, *Godfrey* (NCSC).

Small (1933) under *Ionoxalis martiana* (Zucc.) Small, gives the range of this species as "Fla. to Tex. and S. C." No specimen from North Carolina has been found in NCU, DUKE or NY. Therefore, the above collection is cited here as the first record for North Carolina.

**Ruta graveolens** L.—NORTH CAROLINA. Orange Co.: Roadside on edge of field by Morgan Creek, above bridge on Pittsboro Rd., Chapel Hill, April 8, 1945, *Costello & D. & A. Beers*.

Small (1933) gives the range for this species as various provinces in the eastern United States. Gleason (1952) cites no range, merely stating, "Native of Europe; cultivated in old-fashioned gardens and often escaped to waste ground and roadsides." Fernald (1950) gives it south only to Virginia on the Atlantic Seaboard. The Orange County collection is cited here as a first record for North Carolina.

**Croton lindheimeri** (Engelm. & Gray) Wood—SOUTH CAROLINA. Beaufort Co.: Sandy palm woods, Jenkins Island, *Bell 4807*. Richland Co.: Vacant lot near railroad, Columbia, *Freeman 56823*.

According to the range given by Small (1933) for this species under the binomial *Croton engelmannii* Ferguson, and that given by Fernald (1950), the Beaufort and Richland County collections represent a northern extension in the east coast states; both Small and Fernald report it north only to Georgia on the Atlantic Seaboard. Gleason (1952) treats this entity as *C. capitatus* var. *lindheimeri* Muell.-Arg., apparently ignoring the authority (Engelm. & Gray) for the basionym, and reports it only in Florida in the Atlantic coast states. At the Beaufort County locality it was very abundant, and conspicuous from a car.

**Euphorbia dentata** Michx.—NORTH CAROLINA. Graham Co.: Roadside, U. S. 129, near Cheoah Creek, 5 mi. se. of Tapoco, *Radford 15904*. Surry Co.: Ditch, Yadkin River near Elkin, *Radford 18380*.

Small (1933), under *Poinsettia dentata* (Michx.) Small, has this species as occurring throughout the southeastern United States, while

Gleason (1952) excludes this region, at least south of Virginia. In Fernald (1950) the range "N. Y. to Minn., S. D. and Wyo., s. to Va., La., Tex. and Mex.," can be interpreted as either including or excluding North Carolina. The absence of specimens in NCU, DUKE and NCSC is, therefore, the principal reason for including this species as new to North Carolina.

**Euphorbia hirta** L.—SOUTH CAROLINA. Jasper Co.: Lawn weed around gas station, Ridgeland, *Ahles 15812*.

Small (1933) under the name *Chamaesyce hirta* (L.) Millsp. gives the range of this species as "Fla. to Tex." Fernald (1950) does not mention it at all and Gleason (1952) says, "Widely distributed in tropical and subtropical lands, including the southern states." Since no mention is made of South Carolina, the specimen from Jasper County is worthy of note here as the species is well established at this locality.

**Phyllanthus niruri** L.—SOUTH CAROLINA. Sumter Co.: Weed in disturbed soil, Sumter, *Freeman 56801*.

The range given by Small (1933) for this southern species is Florida and the Keys. It spreads freely by seed as a weed in the greenhouse of the University of North Carolina. For this reason it is not too surprising to find it spreading, particularly in disturbed areas. More careful field work will doubtless reveal it in other places.

**Phyllanthus pentaphyllus** C. Wright—SOUTH CAROLINA. Darlington Co.: In sand hills beyond Camden Rd., 5 mi. n. of Hartsville, March 27, 1910 (without collector or number).

This species is known only from Florida, the lower Florida Keys and the West Indies, according to Small (1933). It is possibly only a sporadic introduction in South Carolina, or it may be an isolated native remnant.

**Stillingia aquatica** Chapm.—SOUTH CAROLINA. Hampton Co.: Associated with *Taxodium ascendens* Brongn. and *Ilex myrtifolia* Walt., 0.2 mi. n. of Luray on U. S. 321, *Ahles 18285*.

Small (1933) gives the range of this species from Florida to Mississippi and South Carolina. However, Rogers (1951) restricts its distribution to Florida, and Sumter County, Georgia. The fact that UNC, DUKE, NCSC and NY have no specimens other than those from Florida and Georgia is significant. The Hampton County specimen is considered a northward extension of the range.

**Callitriche terrestris** Raf.—NORTH CAROLINA. Union Co.: Meadow, 3 mi. s. of Rocky River, 4.5 mi. n. of Unionville, *Radford 10598*. Warren Co.: Wet border of cultivated field, about 4 mi. n. of Church X Roads on Jordans Creek, near the Roanoke River, *Ahles 12865*.

Small (1933) and Fassett (1951) give the range of this species as western Massachusetts south to Virginia, and in the midwest south to Louisiana and Alabama. The Union and Warren County collections are a southern extension of range into North Carolina.

**Elaeagnus pungens** Thunb.—NORTH CAROLINA. Forsyth Co.: Escape, *Schallert 613* (no locality). Orange Co.: Pine-oak woods, Chapel Hill,

March 10, 1956, *Ahles 9995*. SOUTH CAROLINA. Union Co.: S. C. 9 at the Broad River, *Freeman 56880*.

This commonly cultivated species is not included by Small (1933), Fernald (1950) or Gleason (1952). James (1956) seems to be the first to have reported it as established in a southeastern state. It occurs abundantly in small colonies in each of the localities listed. It is quite frequent in the woods around Chapel Hill as an escape.

**Cuphea carthagenensis** (Jacq.) Macbr.—NORTH CAROLINA. Brunswick Co.: Swampy woods along creek, Orton, *Godfrey 10156*. Carteret Co.: Wet sandy soil, Beaufort, July 15, 1938, *R. Gray* (DUKE, NCSC); pineland at Sea Level, *Godfrey 6412*. Johnston Co.: Savannah along U. S. 70 near Pine Level, *Radford 4409*. Onslow Co.: Roadside at Folkstone, July 25, 1923, *E. J. Alexander*. Pitt Co.: Path near house site, 1 mi. e. of Fountain, *Radford, Haesloop & Miller 7357*. Wayne Co.: Marshy ground at edge of lake, about 5 mi. ne. of Mt. Olive, *Blomquist 14768* (DUKE). Wilson Co.: Pineland, 12 mi. e. of Wilson, *Blomquist 11214* (DUKE). SOUTH CAROLINA. Beaufort Co.: Swamp 0.2 mi. ne. of Neue River on S. C. 170, *Bell 5283*. Colleton Co.: Roadside swamp, 0.7 mi. sw. of Cottageville, on Co. Rt. 40, *Ahles 17949;* under highway bridge over Combahee River on U. S. 17A, *Ahles 21031*. Georgetown Co.: Sand wash along small stream 2 mi. ne. of Andrews, *Godfrey & Tryon 964* (DUKE). Jasper Co.: Swamp by S. C. 170, 2 mi. s. of jct. with S. C. 128, *Bell 4837*.

Small (1933) gives the range of this plant, under the name of *Parsonsia balsamona* (C. & S.) Standley, as "lake region, pen. Fla." Thorne (1951) reported the species from Georgia. It was found in both North and South Carolina during the 1956 collecting season. The earlier specimens cited above were found while checking the local herbaria; many were misidentified, or identified only to genus. Despite the relatively large number of these collections from the Coastal Plain, this species does not appear to have been published previously for North or South Carolina. Macbride (1930) pointed out that *Lythrum carthagenense* Jacq. and *Cuphea balsamona* Cham. & Schlecht. were names applied to the same species; therefore, he made the new combination now in use.

**Gaura parviflora** Dougl.—SOUTH CAROLINA. Aiken Co.: Near Savannah River on U. S. 1, *Radford 513*. Fairfield Co.: Railroad crossing at Dawkins, *Freeman 56395*.

Small (1933) reports the range of this taxon as Alabama and westward. Munz (1938) gives the range of the species and the varieties as mid-western and western. The Aiken and Fairfield County collections are the first records for South Carolina.

**Jussiaea leptocarpa** Nutt.—NORTH CAROLINA. Harnett Co.: Pond margin, 10.6 mi. e. of Harnett-Lee Co. line on U. S. 421, *H. Laing 625*. SOUTH CAROLINA. Beaufort Co.: Brackish marsh, 0.7 mi. sw. of Co. Rt. 33 on U. S. 17, *Ahles 18015*. Hampton Co.. Sandy shore of pond, 0.8 mi. nnw. of Shirley on Co. Rt. 20, *Ahles 18257*. Jasper Co.: Edge

of cypress swamp, 2.4 mi. s. of jct. of U. S. 17 & 17A on U. S. 17A, *Ahles 18149*. Lee Co.: Near U. S. 15, about 1 mi n. of DuBose, *Freeman 56788*.

Small (1933), Fernald (1950) and Gleason (1952) give the range of this plant as Florida to Texas, and north to Georgia in the Atlantic States. The cited specimens extend the range northward to South and North Carolina.

**Anthriscus scandicinus** (Weber) Mansf.—NORTH CAROLINA. Madison Co.: Waste ground at Hot Springs, *Freeman 56330*.

This European weed is not mentioned by Small (1933) or Rodgers (1950). Fernald (1950) states that it is "as yet local" in southeast Virginia.

**Chaerophyllum procumbens** (L.) Crantz—NORTH CAROLINA. Alamance Co.: Wooded floodplain of Haw River, 11 mi. w. of Chapel Hill, *Radford 5572*. Lee Co.: Woods on floodplain of Cape Fear River near Hgih Hill, *Radford 5589*. Rockingham Co.: River bottom woods along Dan River, 1.5 mi. ese. of Leaksville, *Ahles 10780*. Warren Co.: Wooded slopes of river bottom by Jordan's Creek at Roanoke River, about 4 mi. n. of Church X Road, *Bell 2860*.

Although this species was listed by Curtis (1867) as growing in the "Mid. Dist." (Piedmont) of North Carolina, the manuals currently covering our area, as do Mathias and Constance (1944–45), give the range of this species as generally north and west of the Carolinas. Rodgers (1950) cites two nineteenth century collections from South Carolina, but speaking of North Carolina he says, "No collection is yet known from this state." Because the Curtis reference to *Chaerophyllum procumbens* has been either overlooked or, for lack of herbarium specimens, discounted by all contemporary workers, the species is here considered as new to the state, and the above collections are cited to show the plant to be growing at several points in the Piedmont of North Carolina. The determination of the Alamance County collection was verified by Dr. Lincoln Constance.

**Hydrocotyle sibthorpioides** Lam.—SOUTH CAROLINA. Darlington Co.: Lower lawn of Kalmia Gardens, Hartsville, *Bell 1574*.

Mathias and Constance (1944–45), Fernald (1950) and Gleason (1952) variously report the sporadic introduction of this small plant into the general area of Pennsylvania, Virginia, Kentucky and Indiana. This species is not mentioned by Small (1933), but specimens from North Carolina, Georgia and Louisiana are cited by Rodgers (1950), and an additional North Carolina station for the species is reported by Freeman (1955). No previous report of this plant from South Carolina is known.

**Ptilimnium fluviatile** (Rose) Mathias—NORTH CAROLINA. Chatham Co.: In gravelly, seeping soil; rocky bed of Deep River 1 mi. w. of Moncure below Lockville Dam, *Beard 1277*. Granville Co.: Wet sand, growing in sand bar in middle of Tar River 10 mi. s. of Oxford on N. C. 96, *Gillespie 397* (NCSC).

Small (1933) and Mathias and Constance (1944–45) treat this species as an Alabama endemic; Small uses the name *Harperella fluviatilis* Rose. Rodgers (1950) does not include the species for North Carolina. The first collection for this state was made by Beard while he was working on the flora of the Deep River basin.

**Buddleia lindleyana** Fort.—NORTH CAROLINA. Forsyth Co.: Escaped near Winston-Salem, *Schallert 508*.

Small (1933) under the name *Adenoplea lindleyana* (Fort.) Small gives "Fla. to Tex. and Ga." as the range for this species. In 1948 E. J. Alexander, H. E. Ahles and J. K. McGrath collected it as established in the vicinity of Jocassee, Oconee County, South Carolina. A specimen of this collection is in the personal herbarium of H. E. Ahles. Schallert's specimen appears to be the first collection for North Carolina. It is not known with any certainty that the plant is established in this state.

**Centaurium umbellatum** Gilib.—NORTH CAROLINA. Orange Co.: Lawn of President's Mansion, Chapel Hill, July 6, 1914, *W. C. Coker*.

Small (1933) does not include this species in his manual. Fernald (1950) says, "local, Que. to Mich., s. to Ga. and Ind.," and Gleason (1952), "N. S. to n. Ill." Because the limits of the range of this species are indefinite and because the Coker specimen is the only one from North Carolina found in any of the four herbaria, NCU, DUKE, NCSC or NY, the Orange County collection is considered to be the first record for North Carolina. It is probably only a sporadic waif in this state.

**Ampelamus albidus** (Nutt.) Britt.—NORTH CAROLINA. Halifax Co.: Climbing on other plants, roadside, Weldon, *Ahles 14831*; climbing in thickets along the Roanoke River just n. of Roanoke Rapids on N. C. 48, *Ahles 20732*. Warren Co.: Fence row and roadside at Eaton Ferry, Roanoke River, s. of Elams, *Bell 4363*.

Although Small (1933) under *Gonolobus laevis* Michx. states the range of this plant as "Fla. to Tex., Kans., and Pa.," Fernald (1950) and Gleason (1952) give the range in such a way as to exclude Florida and the Carolinas.

**Phlox drummondii** Hook.—SOUTH CAROLINA. Allendale Co.: Roadside about 2 mi. ese. of Ulmers on Co. Rt. 48, *Ahles 12578*. Beaufort Co.: Sand and shell dunes by U. S. 21, near Harbor River, *Bell 1723*. Colleton Co.: Roadside and low woods, Buckhead Creek along Co. Rt. 48, 3.4 mi. sw. of U. S. 21, *Bell 2286*. Hampton Co.: Roadside of U. S. 601 about 2 mi. nw. of Miley, *Bell 2564*. Jasper Co.: Roadside 2 mi. s. of Tillman on U. S. 321, *Bell 1663*.

This plant, native to the southwest, is considered by Small (1933) to be naturalized east to Florida and Georgia. It is now well established in some parts of South Carolina.

**Heliotropium amplexicaule** Vahl—NORTH CAROLINA. Anson Co.: Sandy pine-oak woods border, 1.6 mi. ese. of Cason Old Field, *Ahles 19471*.

Small (1933), under the name *Cochranea anchusaefolia* (Poir.) Guerke, gives the northernmost range of this plant as Georgia. It has

been reported since for South Carolina by Smith (1946). Fernald (1950) gives the range of this species as "Fla. to Tex. and Calif. n. to N. J. and O." Gleason (1952) says, "S. C. to Fla. and Tex. occasionally n. to Va. and Mo." The lack of specimens from North Carolina in the local herbaria warrants the reporting of the Anson County collection.

**Myosotis versicolor** (Poir.) Sm.—NORTH CAROLINA. Granville Co.: Field at Creedmoor, *Radford 10449*.

Small (1933) does not mention this species, and Fernald (1950) cites it only as far south as Virginia where he collected it in Dinwiddie County (Fernald, 1938). It appears that there are no collections from North Carolina prior to 1956.

**Verbena brasiliensis** Vell.—SOUTH CAROLINA. Beaufort Co.: Railroad in Yemassee just s. of Co. line on U. S. 17A, *Bell 2520*. Cherokee Co.: Roadsides and fields, 3 mi. ne. of Chesnee, *Freeman 56425*. Chester Co.: Roadside, 0.25 mi. e. of Lockhart, *Freeman 56406*. Hampton Co.: Roadside, Yemassee, *Bell 2595*. Marlboro Co.: Roadside, Crooked Creek, 5 mi. sw. of Bennettsville, *Radford 15482*. Sumter Co.: U. S. 76 at the Wateree River, *Freeman 56809*. Union Co.: Waste places, Lockhart, *Freeman 56402*.

Small (1933) gives the range of this species as Louisiana. Since that time it has apparently become more widely spread. Fernald (1950) says, "Fla. to La. and n. to se. Va.," while Moldenke (1952) has a similar range, but extending it westward to Arkansas and also into southern California. Moldenke (1949) does not include this species for South Carolina.

**Verbena × engelmannii** Moldenke—NORTH CAROLINA. Ashe Co.: Banks of New River, Solitude P. O. (without date, collector or number).

This hybrid of *Verbena hastata* L. × *Verbena urticifolia* L. is not included by Small (1933) or Fernald (1950). Moldenke (1952) cites this hybrid from fourteen states; none, however, are southeastern except Tennessee and Kentucky. In his 1949 treatment he cites no records for North Carolina.

**Verbena × hybrida** Voss.—SOUTH CAROLINA. Darlington Co.: Low, sandy bottom lands, oper woods, se. of Hartsville, April 8, 1921, *J. B. Norton*.

This common garden hybrid is not listed in Small (1933) or Fernald (1950). Moldenke (1952) says, "naturalized, Pa., O., Ia., Okla., occasionally found escaped elsewhere," and in his treatise of this family (1949) he does not cite any specimens of the hybrid from South Carolina.

**Verbena rigida** Spreng.—SOUTH CAROLINA. Allendale Co.: Sandy roadside, 2.6 mi. nnw. of Allendale on S. C. 28 and 3.8 mi. ene. on Co. Rt. 39, *Ahles 12581*. Beaufort Co.: Forming colonies on roadside, 1.6 mi. se. of Pocotaligo on U. S. 21, *Ahles 12368*. Colleton Co.: Road embankment, 1.4 mi. ne. of Ashepoo on U. S. 17, *Ahles 15505*. Dorchester Co.: Open sandy soil in and around Summerville, *Correll 5348* (DUKE).

Small (1933) gives the range of this introduced species as "W. Fla. to Tex. and N. C." Moldenke (1949) cites many specimens from Georgia,

only a few from North Carolina, but none from South Carolina. Although South Carolina is well within the range of the species, the fact that Moldenke has not seen any specimens from that state warrants the inclusion of the collections cited above.

**Perizoma rhomboidea** (Hook.) Small—NORTH CAROLINA. Carteret Co.: By Beaufort Channel, Beaufort, *Rogers & Blomquist 3168* (DUKE). Orange Co.: Weed in arboretum of U. N. C., Chapel Hill, *Ahles 16310*. Rowan Co.: Abundant weed in cultivated field near Salisbury, Oct. 12, 1955 (sent in by County Agent), (NCSC); abundant garden weed, Spencer, *Ahles 14933*. SOUTH CAROLINA. Beaufort Co.: Along sidewalk, Hamar St., one block s. of Green St. (two blocks s. of National Cemetery), Beaufort, *Ahles 20926*. Newberry Co.: Near Wallace Home on Caldwell St., Newberry, *Freeman 56633*.

Small (1933) gives only Florida as the range of this plant which has been introduced into the southeast. It now appears to be well established at the North Carolina localities listed above, and also in the Piedmont and Coastal Plain of South Carolina. The two collections from Rowan County are from the same locality, where the plant has become an undesirable weed difficult to eradicate.

**Ajuga reptans** L.—NORTH CAROLINA. Orange Co.: Growing in bed of Siberian iris near bamboo colony in arboretum, Chapel Hill, *L. M. Radford & E. Wicker*; March 28, 1945, *W. Webb*; April 17, 1947, *B. Ivey 82;* May 3, 1949, *P. Titman*. Wake Co.: Campus, N. C. State College, Raleigh, April 13, 1943, *Wells* (NCSC); April 2, 1948, *Williamson* (NCSC).

Small (1933) makes no mention of this species. Fernald (1950) says, "Nfld., to Wisc. s. to Pa. & O.," and Gleason (1952) states, "rarely escaped near gardens." In Chapel Hill it has become fairly well established. The Orange and Wake County collections are being cited as the first report of this species for North Carolina.

**Dicerandra densiflora** Benth.—SOUTH CAROLINA. Jasper Co.: Sandy hills, lightly wooded, 7.9 mi. nw. of Tillman, 3.2 mi. se. of Seaboard Air Line Railway, *Ahles 18205;* also Oct. 11, 1956, *Ahles 20988*.

The range of this southern species is given by Small (1933) as "e. Fla. and Ga." In northwestern Jasper County this plant is very local on the same sand ridge as *Chrysobalanus oblongifolius*, and is probably also native here. The specimen was just coming into flower on September 9, and was in fruit on October 11.

**Stachys sieboldii** Miq.—NORTH CAROLINA. Cumberland Co.: Escaped weed in Butler's Nursery, July 2, 1951, *Butler & Totten*. SOUTH CAROLINA. Oconee Co.: Roadbank and upland woods by Co. Rt. 68, 2.4 mi. se. of Co. Rt. 17, w. of Madison, *Bell 3109*.

Small (1933) and Gleason (1952) do not include this species in their manuals, and Fernald (1950) does not give a range, merely stating that it spreads from cultivation but is hardly established. At the Oconee County locality this species is well established on a road bank.

**Verbascum virgatum** Stokes—NORTH CAROLINA. Moore County: Sandy roadside, 1 mi. s. of Aberdeen on U. S. 15–501, *Ahles 15377*.

Small (1933) gives South Carolina as the range for this species in the Atlantic States. Although Fernald (1950) says the range extends from Ontario to South Carolina, no specimens from North Carolina have been found in the local herbaria or in the Gray Herbarium prior to the Moore County collection.

**Scoparia dulcis** L.—SOUTH CAROLINA. Colleton Co.: Under highway bridge, along Combahee River on U. S. 17A, *Ahles 21030*.

This species has been reported by Pennell (1933) as far north as southern Georgia. It has not been reported previously for South Carolina.

**Plantago hookeriana** F. & M. var. **nuda** (Gray) Poe—NORTH CAROLINA. Moore Co.: Along railroad at U. S. 1 in Aberdeen, *Bell 2712*. Richmond Co.: Roadside 3 mi. ne. of Hamlet on N. C. 77, *Bell 2711*. SOUTH CAROLINA. Allendale Co.: Roadside of Co. Rt. 21 about 2.5 mi. sw. of Fairfax, *Bell 2648*. Bamberg Co.: Abundant on roadside with *Plantago aristata* Michx., 0.9 mi. ne. of Bamberg–Allendale Co. line (Salkehatchie River) on U. S. 301, *Ahles 12605*. Calhoun Co.: Roadside, 1.6 mi. s. of Calhoun-Richland Co. line (Congaree River) on U. S. 601, *Ahles 12608*. Chesterfield Co.: Roadside, 3.6 mi. ene. of Chesterfield-Kershaw Co. line (Lynches River) on U. S. 1, 1 mi. sw. of McBee, *Ahles 12612*. Colleton Co.: Cinder bed along railroad, Lodge, *Ahles 12146;* cinder bed along railroad, Green Pond, on S. C. 303, *Ahles 12169*. Hampton Co.: Associated with *Plantago aristata* Michx., roadside, 1.8 mi. nw. of Yemassee on S. C. 28, *Ahles 12412*. Kershaw Co.: Roadside, 0.5 mi. s. of jct. U. S. 601 and S. C. 12 on U. S. 601, *Ahles 12611*. Marlboro Co.: Roadside, 3.6 mi. ne. of Marlboro-Chesterfield Co. line (Pee Dee River) on S. C. 77, *Ahles 12613*. Oconee Co.: Common on roadside, 1.5 mi. ne. of Fair Play on S. C. 59, *Ahles 13360;* roadside, 1.5 mi. ne. of Tugaloo River on S. C. 59, *Bell 3085*. Orangeburg Co.: Roadside, 1.1 mi. ne. of Orangeburg-Bamberg Co. line (South Edisto River) on U. S. 301, *Ahles 12607*. Richland Co.: Roadside associated with *Plantago aristata* Michx., 2.1 mi. n. of Calhoun–Richland Co. line (Congaree River on U.S. 601, *Ahles 12609*.

In a revision of the *Plantago patagonica* complex Poe (1928) made the combination used here. These plants, now established locally along the roads of North and South Carolina, are described by Small (1913) under the name *Plantago Wrightiana* Decne. as native to Texas. Kearney and Peebles (1951) give the range of this western plant as "western Texas to central Arizona, Oregon and California." It has not been reported previously from the eastern United States.

**Sphenoclea zeylandica** Gaertn.—SOUTH CAROLINA. Jasper Co.: Weed in rice fields, Savannah River Wildlife Refuge, 1.3 mi. w. of jct. U. S. 17 & 17A, and n. on levee, *Ahles 18175*.

The range of this species is as yet too far south to be included by Fernald (1950) and Gleason (1952). Small (1933) gives the range as

"La. to Ark." Fox & Godfrey (1949) cite a specimen from Hyde County, North Carolina. In Jasper County it was found in only one rice field, but there fairly abundantly.

**Wahlenbergia gracilis** Schrad.—SOUTH CAROLINA. Aiken Co.: Weedy yard, about 2 mi. n. of North Augusta, *H. Laing 174*. Chesterfield Co.: Roadside, Cheraw St. Pk. near U. S. 52, *Radford 15890*. Colleton Co.: Weedy area along Seaboard Railroad on Co. Rt. 26, 8 mi. se. of U. S. 17, *Ahles 12226*. Darlington Co.: Damp soil back of Carnes farm about 5 mi. s. of Hartsville, *B. E. Smith 414;* damp soil along highway between Hartsville and Darlington, *B. E. Smith 415;* damp flats near Lauther's Lake, *B. E. Smith 416;* damp soil on Witherspoon Island, *B. E. Smith 1730*. Hampton Co.: Sandy field, 2.4 mi. ne. of Hampton on U. S. 601, *Bell 3935*. Lee Co.: Sandy roadside, 1 mi. sw. of Alcot on U. S. 15, *Ahles 15897*. Marlboro Co.: Field, 2.5 mi. w. of Blenheim, *Radford 12516;* roadside, 1.5 mi. e. of Wallace near N. C. 90, *Radford 15612;* roadside Muddy Creek se. of Marlboro, *Radford 19070*.

This species which is not found in the manuals by Small (1933), Fernald (1950) or Gleason (1952), has become very well established in many places in South Carolina and northern Florida. The first collection from South Carolina in the herbaria is dated 1939, from Darlington County. Extensive collecting in 1956 has yielded records from six additional counties in this state. It is difficult to determine how long the species has been established in this region.

**Artemisia vulgaris** L.—SOUTH CAROLINA. Laurens Co.: U. S. 221 at the Enoree River, *Freeman 56920*.

Small (1933) in his range "Ga. to Ala., B. C., Ont. and Newf." would include this species as occurring in South Carolina, and Cronquist (1952) with the vague "established throughout most of eastern U. S. and adjacent Canada," might also include South Carolina. Fernald (1950) gives the range "Nfld. to Ont., s. to N. S., N. E., Del., Pa., casually to Ga., Mich., Wisc. and Minn." Since there were no South Carolina specimens at NCU, DUKE or NCSC, it seems that the Laurens County collection should be cited as the first record of the species for that state.

**Bidens pilosa** L. var. **radiata** Bip.—SOUTH CAROLINA. Georgetown Co.: Sandy bank, causeway across marshes at Georgetown, *Godfrey 50911*. Jasper Co.: Weed around Little City Motel, Ridgeland on U. S. 17, *Ahles 12397*.

Sherff (1937) in his monographic treatment of the genus restricts the range of *Bidens pilosa* L. to the extreme southwestern United States and southward through Mexico. The plant in the eastern United States he refers to as var. *radiata*, but cites no specimens from South Carolina. Fernald (1950) says for this plant, "casual weed n. to Mass.," and Cronquist (1952), "ballast waif at Philadelphia." Sherff (1937) cites specimens from Massachusetts and New Jersey, indicating that it is sporadic at least as far north as Massachusetts. Wiegand (1933) gives

the range as Florida, southern Georgia and Alabama. Godfrey (1950) cites one specimen from North Carolina.

**Chrysanthemum lacustre** Brot.—NORTH CAROLINA. Chowan Co.: In ditch on N. C. 32, 1.9 mi. n. of Edenton, July 12, 1949, *E. T. Browne, Jr.* Stanly Co.: Low depression, 0.8 mi. nw. of Richfield, *Ahles 16174*.

This species, native to Portugal according to Bailey (1950), is not included as an introduced plant in North America by any of the works cited in this paper. A specimen at DUKE labeled "Beach of Lake Huron, Mackinaw Island, Michigan, July 28, 1935, H. A. Gleason," would seem to warrant its inclusion in the manuals of the northeastern United States. It is occasionally cultivated and apparently spreads from this source. The two specimens cited above constitute the first report for North Carolina.

**Cirsium arvense** (L.) Scop.—NORTH CAROLINA. Ashe Co.: Flat bottomlands along New River, Sept. 21, 1946 (collector not given, NCSC). Haywood Co.: Open grassy pasture, Crabtree Bald knoll, se. of summit. Plentiful in small area, *Quarterman 85* (DUKE). Jackson Co.: Pisgah Forest, July 25, 1940, *H. Myres*. Swain Co.: Edge of abandoned road, s. of Black Camp, *Blomquist 9757* (DUKE). Transylvania Co.: Open pasture in the Pink Beds, *Correll 3389* (DUKE).

Although Small (1933) gives the range as "N. C. to Kans., B. C. and Newf.," the preceding collections seem worthy of record, since Fernald (1950) gives the range south only to Virginia, while Cronquist (1952) says northern United States and southern Canada.

**Coreopsis basalis** (Dietr.) Blake—SOUTH CAROLINA. Beaufort Co.: Cinder bed along railroad, 0.4 mi. e. of Burton on U. S. 21, *Ahles 12347*. Colleton Co.: Railroad at Green Pond, on S. C. 303, *Bell 2326*. Hampton Co.: Very abundant along railroad, Early Branch on S. C. 28, *Ahles 12445*.

Watson (1933a), under *Coreopsis drummondii* (D. Don) T. & G., gives the range of this species as Texas, and states that it is an escape from cultivation eastward. Fernald (1950) says that it spreads to waste ground. Cronquist (1952) reports it as found occasionally as an escape from cultivation. Godfrey (1950) reports it as abundantly naturalized around Southport, Brunswick County, North Carolina. In the three stations cited above for South Carolina, plants of this species were well established in good-sized stands, always near or on railroad ballast.

**Cosmos bipinnatus** Cav.—SOUTH CAROLINA. Chesterfield Co.: Roadside, 2.5 mi. nw. of Jefferson, *Radford 18792*.

Alexander (1933) gives the range of this species as Florida, Fernald (1950) says that it is becoming established southward, and Cronquist (1952) gives the range as Arizona and Central Mexico, cultivated elsewhere and frequently escaped. Thorne (1951) cites it from Georgia as infrequent along roadsides. No record of the occurrence of this species in South Carolina prior to 1956 has been published.

**Crepis pulchra** L.—SOUTH CAROLINA. Chesterfield Co.: Waste place, Forked Creek, 1 mi. e. of Jefferson, *Radford 12385*. Oconee Co.: Once-

cultivated field, about 7 mi. s. of Westminster on Co. Rt. 20 at jct. Co. Rt. 140, *Ahles 14047*. Pickens Co.: Field, 0.7 mi. nw. of Norris on S. C. 137, *Bell 3458*. Union Co.: U. S. 176, 4 mi. n. of Union, *Freeman 56147*.

This taxon is not in Small (1933). Fernald (1950) gives the range as Virginia and Indiana. Cronquist (1952) gives it as Virginia, Ohio and Indiana. Fox & Godfrey (1949) report it from three counties in North Carolina, and as abundant at each locality. Freeman (1955) reports it as occasional in Polk County, North Carolina. During 1956 many additional collections of it were made in North Carolina. The Oconee, Pickens and Union County collections in 1956 constitute the first report of this species from South Carolina.

**Facelis retusa** (Lam.) Sch.-Bip.—SOUTH CAROLINA. Allendale Co.: Sandy roadside, 0.1 mi. nne. of Co. Rt. 26 on Co. Rt. 49, *Ahles 12523*. Anderson Co.: Sandy roadside, 3 mi. ese. of Fair Play, *Ahles 13416*. Beaufort Co.: Cinder bed along railroad at station, Sheldon, *Ahles 10367*. Colleton Co.: Weed in once-cultivated field, Ritter, *Ahles 10538;* sandy roadside, near Ashepoo River, about 1 mi. s. of Ritter on Co. Rt. 41, *Ahles 12189*. Hampton Co.: Low woodland, 2.8 mi. se. of Furman on U. S. 621, *Bell 1800*. Jasper Co.: Lawn weed, Ridgeland, *Ahles 10358;* roadside, 5 mi. s. of S. C. 128 on S. C. 170, *Ahles 12392*. Newberry Co.: Indian Creek, 7 mi. sw. of Whitmire, *Freeman 56223*. Orangeburg Co.: Roadside near Bowman, common in waste places and meadows, *Freeman 56168*. Pickens Co.: Dry upland pasture, 1.4 mi. w. of Pumpkintown, on S. C. 11, *Ahles 14366*.

Under the binomial *Facelis apiculata* Cass., Small (1933) states the range as "coastal plain & piedmont, Fla., Ala. and Ga." Fernald (1950) and Cronquist (1952) do not include the species. Thorne (1954) reports it as common in Georgia, and Godfrey (1950) cites a specimen from Cleveland County, North Carolina. Apparently it has become more abundant in the last few years and there are now specimens from many more North Carolina counties. In 1956 collections were made in nine counties of South Carolina, a state from which the species had not been reported previously.

**Helianthus maximiliani** Schrad.—NORTH CAROLINA. Cleveland Co.: Open field along stream, 2 mi. ssw. of Mooresboro, *Ahles 19200*. Forsyth Co.: Open place (without further data), *Schallert 610* (det. C. B. Heiser, 1955). Rockingham Co.: Roadside, 1.75 mi. nw. of Lawsonville, *Radford 18569*.

Watson (1933), Fernald (1950) and Cronquist (1952) all give the range of this species as west of the Mississippi River, and state further that it is adventive, escaped or introduced eastward.

**Helianthus radula** (Pursh) T. & G.—SOUTH CAROLINA. Colleton Co.: Sandy roadside of Co. Rt. 24, by pine woods, 0.5 mi. nw. of jct. with Co. Rt. 34, frequent locally, *Bell 5382*. Hampton Co.: Sandy upland, 2.2 mi. s. of Brighton on dirt road, *Bell 4985;* pine savannah, 0.4 mi. n. of Jasper-Hampton Co. line on S. C. 128, *Ahles 18374;* pine savannah, 0.1 mi. w. of Hampton-Jasper Co. line on U. S. 321, 1 mi. e. of Garnett,

*Ahles 21009;* pine savannah, 0.7 mi. ne. of Early Branch, *Ahles 21019.* Jasper Co.: Pine savannah, 2 mi. n. of Hardeeville on U. S. 321, *Ahles 18191;* sand hill by Co. Rt. 41, w. of Barton and 0.5 mi. s. of jct. with Co. Rt. 23, *Bell 5114;* pine savannah and roadside, 3.3 mi. n. of Hardeeville on U. S. 601, *Ahles 20972.*

It is very surprising to note that Watson (1933) does not include South Carolina in the range of this species ("Fla. to Ala. and Ga."). In South Carolina it appears to be a very definite part of the flat pine-savannah flora. At each locality cited it was conspicuous and at least frequent, if not common. It was observed in many more localities within the cited counties, but specimens were not collected from all of them.

**Hypochaeris glabra** L.—NORTH CAROLINA. Alexander Co.: Open stream bank, Middle Fork of Little River near jct. with Catawba River sw. of Taylorsville, *Radford 18167.*

No collections of this species were found from North Carolina at NCU, DUKE, NCSC or NY. Fernald (1950) does not include this species, while Cronquist (1952) says, "established in the Pacific states, and has been collected several times apparently as a waif in our range." Small (1933) gives a very ambiguous range, "n. Fla. to Ohio and Me." It is well established at the locality cited above and is here recorded as new for that state.

**Iva ciliata** Willd.—NORTH CAROLINA. Anson Co.: Abundant on roadside and field edges for a stretch of one mile, 1 mi. s. of Pee Dee River on N. C. 109 and 1 mi. e. on dirt road, vicinity of Cedar Creek, *Ahles 19498.* Franklin Co.: Weed in cultivated field, 0.4 mi. nw. of Sutton, *Ahles 20664.* Halifax Co.: Abundant on edge of cultivated field, 4.1 mi. se. of Weldon on U. S. 301, *Ahles 20820.*

The range of this species as a native plant is predominantly central United States and introduced eastward to Alabama according to Small (1933), and New England according to Fernald (1950). The three collections cited are all close to the fall line, two in the northern part, and one in the southern part of the state. Only at the Franklin County locality was this species scarce.

**Lapsana communis** L.—NORTH CAROLINA. Haywood Co.: Open moist hillside, Waynesville, lower part of trail to summit (of) Eaglenest, *Quarterman 74* (DUKE).

Fernald (1950) gives the range of this species as "Que. and Ont., s. to N. S., N. E., Va., W. Va. and Mo." Cronquist (1952) also has Virginia as the southernmost state on the Atlantic seaboard. Small (1933) does not include the genus. The above cited specimen is therefore taken as a southward extension of the known range.

**Leontodon leysseri** (Wallr.) G. Beck—NORTH CAROLINA. Clay Co.: Roadside, Buck Creek area near U. S. 64, w. of Black Gap, *Radford 16202.*

This species is not included by Small (1933). Fernald (1950) gives the range south to Ohio and New Jersey, while Cronquist (1952) has it

south to the District of Columbia. The Clay County collection represents a southward extension of the range. Superficially this species very closely resembles *Hypochaeris glabra*.

**Picris hieracioides** L.—NORTH CAROLINA. Buncombe Co.: Habitat in vicinis Asheville, Maio, 1888, *Gerald McCarthy*. Haywood Co.: Junaluska Mt., *Blomquist 5291* (DUKE); moist open pasture, Waynesville, near summit of Eaglenest, *Quarterman 73* (DUKE).

Small (1933) does not include this species in his manual. Fernald (1950) says it occurs south to New Jersey and Pennsylvania, and Cronquist (1952) south to the District of Columbia.

**Rudbeckia mollis** Ell.—SOUTH CAROLINA. Jasper Co.: Open sand hills, 8.5 mi. nw. of Tillman, 2.6 mi. se. of Seaboard Air Line Railway (this is presumably the town of Myres), *Ahles 18216*.

This species has been reported by Boynton (1933) from Florida and eastern Georgia. The Jasper County specimen is therefore a northward extension of range. It is very probable that this is a native plant here, occurring as it does on the same sand ridge with *Chrysobalanus oblongifolius* and *Dicerandra densiflora*.

**Soliva sessilis** R. & P.—NORTH CAROLINA. Carteret Co.: Lawn from Beaufort, May 1, 1953, *A. H. Newsome* (NCSC). SOUTH CAROLINA. Orangeburg Co.: Weed in lawn, Edisto Gardens along Edisto River, *Ahles 10695;* same locality, *Freeman 56165*.

Small (1933) gives the range of this species as "n. Fla. to La." Thorne (1951) supplements this by reporting it from Georgia. The three above collections extend the range northward into South and North Carolina.

**Tragopogon dubius** Scop.—NORTH CAROLINA. Catawba Co.: Weed along railroad, 2.6 mi. e. of Conover, *Ahles 12984*.

Small (1933) does not include this species in his manual. Fernald (1950) gives it south only to Virginia, while Cronquist (1952) says, "established over most of the U. S., more common westward." The absence of North Carolina specimens at NCU, DUKE, NCSC and NY seems to justify recording the species as new to North Carolina.

**Verbesina encelioides** (Cav.) B. & H.—NORTH CAROLINA. Robeson Co.: Scattered in pasture on upland, 20 mi. w. of Lumberton, Sept. 4, 1953, *B. W. Wells* (NCSC). SOUTH CAROLINA. Sumter Co.: Sandy waste ground, abundant, southern city limits of Sumter, *Ahles 15896;* Wedgefield at the jct. of S. C. 763 & 261, *Freeman 56804*.

Small (1933), under the name *Ximenesia encelioides* Cav., places this species as indigenous west of the Mississippi, and cites it as introduced in Alabama and Key West, Florida. Fernald (1950) has it adventive in Missouri and occurring casually to New England. Cronquist (1952) says it is occasionally introduced eastward. In the vicinity of Sumter, in Sumter County, South Carolina, this species is so abundant as to create large yellow masses in almost every vacant lot.

## Summary

One hundred state records are reported: fifty taxa are reported for the first time from North Carolina, and fifty taxa from South Carolina. Two hybrids and only four subspecific taxa are included in the records, and of these latter, two varieties, *Plantago hookeriana* var. *nuda* and *Bidens pilosa* var. *radiata*, also represent species new to the respective states for which they are reported. Of the total of eighty-eight taxa treated as new to one or both of the Carolinas, fourteen taxa represent native plants, sixty-seven taxa represent introduced plants, and seven taxa (*Digitaria filiformia, D. texana, Paspalum plicatulum, Scirpus koilolepis, Phyllanthus pentaphyllus, Callitriche terrestris* and *Ampelamus albidus*) represent plants of questionable origin in the Carolinas. Vouchers for all records are deposited in the Herbarium of the University of North Carolina unless otherwise indicated.


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[1] Bartholomew's Cobble, by Herbert J. Arnold and S. Waldo Bailey. Published by, and available from the Trustees of Reservations, 50 Beacon Street, Boston 8, Mass., $0.50.

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